ART. XXI.—*Hudson River "Fiord";* by ARTHUR M. EDWARDS, M.D.

I HAVE been for sometime investigating the deposit thrown down during the Champlain period in the Hudson River, New York, more especially to find out if it is the same as that of the bay of Newark, N. J., and I have decided that they are different; that of Newark being newer than that of the Hudson River. But I have been called upon to examine the soundings from the Hudson River "Fiord" made by Mr. A. Lindenkohl of the U. S. Coast Survey which he has kindly furnished to me and they are with the following results. In

lat. 39° 34′, long. 72° 26′, depth 168 fathoms there were found *Achnanthes brevipes* C. A. A., *Actinocyclus Ehrenbergii* J. R. with three rays (*A. ternarius* C. G. E.) and with five rays (*A. quinarius* C. G. E.), *Actinoptychus undulatus* J. W. B., *Chætoceros Wighamii* T. B., *Cocconeis scutellum* C. G. E., *Coscinodiscus lineatus* C. G. E., *C. minor* C. G. E., *C. oculus-iridis* C. G. E., *C. radiatus* C. G. E., *C. subtilis* C. G. E., *Cyclotella operculata* F. T. K., *Dictyocha fibula* C. G. E., *D. spicula* C. G. E., *Denticula palea* D. C. L. N., *Epithemia Jurgensii* C. A. A., *Goniothecium anaulus* C. G. E., *Gaillionella granulata* C. G. E., *Hyalodiscus stelliger* J. W. B., *Navicula elliptica* F. T. K., *Synedra ulna* D. C. L. N., *Triceratium alternans* J. W. B., *T. favus* C. G. E., *T. reticulum* C. G. E.,—*Foramenifera*, *Polycistina*. In lat. 39° 32′, long. 22° 8′, depth 261 fathoms, there were found *Actinocyclus undulatus* J. W. B., *Actinoptychus Ehrenbergii* J. R., *Coscinodiscus eccentricus* C. G. E., *C. oculus-iridis* C. G. E., *C. radiatus* C. G. E., *C. subtilis* C. G. E., *Cyclotella Kutzingiana* G. H. K. T., *C. operculata* F. T. K., *Chætoceros Wighamii* T. B., *Denticula palea* D. C. L. N., *Dictyocha fibula* C. G. E., *Doryphora amphiceros* C. G. E., *Gaillionella granulata* C. G. E., *G. sulcata* C. G. E., *Navicula elliptica* F. T. K., *Synedra* ——*?*, *Triceratium alternans* J. W. B.,—*Sponge spicules*, *Polens pirni*. In lat. 39° 56′, long. 72° 11′, depth 47½ fathoms there were found *Actinocyclus undulatus* S. W. B., *Gaillionella sulcata* C. G. E.,—Sponge spicules. In 43 fathoms between the fiord and Montauk Point *Actinocylus undulatus* S. W. B., *Coscinodiscus oculus-iridis* C. G. E., *C. radiatus* C. G. E., *Gaillionella granulata* C. G. E., *G. sulcata* C. G. E., *Pinnularia peregrina* C. G. E., *P. viridis* D. C. L. N., *Triceratium alternans* J. W. B., *T. reticulum* C. G. E.,—Sponge spicules. As these species are the same, or rather the grouping of them, as are living on the coast we may consider this as made up the recent forms. There is also present besides quartz sand, which makes up the mass of the soundings, broken crystals of magnetic oxide of iron and transparent green crystals of hornblende showing that they come from the Palisades of New Jersey or the Trap rocks of Connecticut, most likely of Connecticut, for this is the way north or somewhat to the east, the ice came which formed the moraine on the coast. The microscopic organisms are not those of the Newark bay as they are not of brackish or fresh-water origin as those are, showing the "fiord" is not a continuation of Newark bay but rather of the Hudson River. This may serve as a contribution to the knowledge of the Hudson River "fiord."